THE PENDING CLAIMS:

15. (Previously Presented) A method for processing a substrate, comprising:

depositing a silicon carbide barrier layer on the substrate by a method comprising:

introducing an alkylsilane and a noble gas into a chamber;

initiating a plasma in the chamber; and

reacting the alkylsilane in the presence of the plasma to form silicon carbide;

depositing a first dielectric layer on the silicon carbide barrier layer;

depositing a silicon carbide etch stop having an etch selectivity ratio of at least about 40 to 1 on the first dielectric layer by a method comprising:

introducing an alkylsilane and a noble gas into a chamber;

initiating a plasma in the chamber; and

reacting the alkylsilane in the presence of the plasma to form silicon carbide;

patterning the silicon carbide etch stop;

depositing a second dielectric layer on the silicon carbide etch stop;

etching the first dielectric layer and the second dielectric layer to form a feature definition;

depositing a tantalum nitride barrier layer in the feature definition;

depositing a copper layer over the tantalum nitride barrier layer to fill the feature definition; and

depositing a silicon carbide passivation layer on the copper layer.

16. (Original) The method of claim 15, wherein the alkylsilane is trimethylsilane.

17. (Original) The method of claim 15, wherein the silicon carbide barrier layer is deposited at a temperature of between about 300°C to about 400°C.

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18. (Original) The method of claim 15, wherein the silicon carbide barrier layer is deposited at a chamber pressure between about 6 to about 8 Torr.

19. (Original) The method of claim 15, wherein the silicon carbide passivation layer is deposited by the method for depositing the silicon carbide barrier layer.

20. (Original) The method of claim 15, wherein the silicon carbide barrier layer is deposited using an RF power supply supplying a power density of about 8.6 to about 14.3 watts per square inch to an anode and cathode in the chamber.

21. (Original) The method of claim 15, wherein the silicon carbide barrier layer is deposited with a methylsilane flow rate of between about 100 to about 500 sccm, a helium or argon gas flow rate of between about 1000 to about 2000 sccm, a chamber pressure of about 6 to about 8 Torr, an RF power source supplying a power density of about 8.6 to about 14.3 watts per square inch to an anode and cathode in the chamber, a substrate surface temperature of between about 200°C to about 400°C, and a showerhead to substrate surface spacing of between about 300 to about 600 mils.

22. (Previously Presented) The method of claim 15, wherein the alkylsilane is selected from the group of methylsilane, dimethylsilane, trimethylsilane, and combinations thereof.

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